CLAIMS

We claim:

1. A method for a display source to regulate a rate of production by the display source of information for display on a display device, the display source associated with a display memory surface set, the display device associated with a presentation surface set distinct from the display memory surface set, the method comprising:

    receiving notification of an estimated time when a future frame will be displayed on the display device;

    preparing display information in the display memory surface set associated with the display source, the preparing based, at least in part, on the estimated time; and

    releasing the display information for display on the display device.

2. The method of claim 1 wherein the display source is in the set: application program, driver, and operating system.

3. The method of claim 1 wherein preparing display information comprises preparing display information in a back buffer in a flipping chain of the display memory surface set associated with the display source and wherein releasing comprises making the back buffer into a ready buffer in the flipping chain of the display memory surface set.

4. The method of claim 1 wherein the preparing comprises performing an operation in the set: deinterlacing video and interpolating video.

5. The method of claim 1 wherein releasing comprises releasing per-pixel alpha information with the display information.

6. The method of claim 1 further comprising:

    disabling processing of the display source.

7.   The method of claim 1 further comprising:

        receiving notification of a time when a frame was displayed on the display device, the frame containing at least a portion of the released display information;

        comparing the received estimated time to the received display time; and

        if the received display time is later than the received estimated time, then taking corrective action.

8.   The method of claim 7 wherein taking corrective action comprises degrading quality when preparing future display information.

9.   A computer-readable medium containing instructions for performing a method for a display source to regulate a rate of production by the display source of information for display on a display device, the display source associated with a display memory surface set, the display device associated with a presentation surface set distinct from the display memory surface set, the method comprising:

        receiving notification of an estimated time when a future frame will be displayed on the display device;

        preparing display information in the display memory surface set associated with the display source, the preparing based, at least in part, on the estimated time; and

        releasing the display information for display on the display device.

10.   A method for a display source to provide information for display on a display device, the display device associated with a display memory surface set, the display device associated with a presentation surface set distinct from the display memory surface set, the method comprising:

        receiving notification that at least a portion of the display information will be occluded on the display device; and

        if at least a portion of the display information will not be occluded, then preparing non-occluded portions of the display information in the display memory surface set associated with the display source, and releasing the display information.

11. The method of claim 10 wherein the display source is in the set: application program, driver, and operating system.

12. The method of claim 10 wherein preparing display information comprises preparing display information in a back buffer in a flipping chain of the display memory surface set associated with the display source and wherein releasing comprises making the back buffer into a ready buffer in the flipping chain of the display memory surface set.

13. The method of claim 10 wherein releasing comprises releasing per-pixel alpha information with the display information.

14. A computer-readable medium containing instructions for performing a method for a display source to provide information for display on a display device, the display device associated with a display memory surface set, the display device associated with a presentation surface set distinct from the display memory surface set, the method comprising:

receiving notification that at least a portion of the display information will be occluded on the display device; and

if at least a portion of the display information will not be occluded, then preparing non-occluded portions of the display information in the display memory surface set associated with the display source, and releasing the display information.